

REMARKS

Claims 1-33 were pending in the application. Claim 24 stood allowed. Claims 1-23 and 25-33 stood rejected. Claims 1, 19-21, 23, 28, and 30 were cancelled. Claims 2-15, 22, 24-27, 29, and 31 were amended. Claims 34-40 were added. Claims 2-18, 22, 24-27, 29, and 31-40 remain in the application.

Allowed Claim 24 was amended to correct antecedents.

Claims 1-23 and 25-33 stood rejected under 35 U.S.C. 102(e) as being anticipated by Luo et al. (US Patent Application Publication US 2002/0093670A1 with application No. 09/732,503).

Claims 2-18, 22, 25, and 27 have been amended to depend from Claim 24 and are allowable on that basis.

Claim 26 has been amended to state:

26. A system for processing a digital image, comprising:
a subject matter detector distinguishing between target and background subject matters in the digital image to produce a belief map of values indicating the degree of belief that pixels in the digital image belong to target subject matter, said values defining a plurality of belief regions;
and
a belief map analyzer determining sizes of said belief regions;
an image enhancement operator enhancing said digital image, said image enhancement operator controlling the degree of image enhancement pixel by pixel, in accordance with both the degree of belief and the size of the respective said belief region.

Amended Claim 26 is supported and allowable on the same basis as Claim 24.

Added Claim 34 states:

34. A method for processing a digital image, comprising the steps of:
applying a subject matter detector to the digital image to produce a belief map of values indicating the degree of belief that pixels in the digital image belong to target subject matter, said values defining a plurality of belief regions;
determining the sizes of each of said belief regions in said belief map;

enhancing the digital image, said enhancing varying pixel by pixel in accordance with both the degree of belief and the size of the respective said belief region.

Claim 34 requires determining the sizes of each of a plurality of belief regions in the belief map and enhancing the digital image, the enhancing varying pixel by pixel in accordance with both the degree of belief and the size of the respective belief region. Claim 34 is supported and allowable on the same grounds as Claims 24 and 26.

Claims 29 and 31-35 are allowable as depending from Claim 34.

Added Claim 36 states:

36. A method for processing a digital image, comprising the steps of:

providing a subject matter detector for distinguishing between target and background subject matters;

applying the subject matter detector to the image to produce a belief map of values indicating the degree of belief that pixels in the image belong to target subject matter;

analyzing the belief map to generate a control signal;

providing an image enhancement operation that is responsive to the control signal for controlling the degree of image enhancement; and

applying image enhancement operation to the digital image by varying the control signal pixel by pixel according to the belief map to produce an enhanced image;

wherein the analyzing includes determining the location of each belief region within said belief map and enhancing the control signal based on the locations.

Claim 36 is supported by the application as filed, notably original claims 1 and 20. Claim 36 is similar in language to Claim 24, but uses location rather than size of belief region.

The rejection stated in relation to Claim 20.

'Regarding claim 20, Luo et al. discloses the claimed locations or "centroid" in page 3, paragraph [0043], line 1.'

The cited portion of Luo et al. relates to the generation of a main subject belief map. (See Luo et al., page 3, paragraphs 0036-0043) Luo et al. states:

"[0036] Reference is directed to FIG. 1, which is a flow diagram showing how the main subject belief values are assigned to pixels in an image." (Luo et al., page 3, paragraph 0036, lines 1-3)

"[0041] Again, referring to FIG. 1, an input image is segmented in Step 4 into a few regions of homogeneous properties, such as color and texture. The regions are evaluated for their saliency in terms of two independent but complementary feature types; structural features and semantic features." (Luo et al., page 3, paragraph 0041, lines 1-6)

"[0042] One structural feature is centrality. In terms of location, the main subject tends to be located near the center ..." (Luo et al., page 3, paragraph 0042, lines 1-2)

"[0043] It should be understood that the centroid of the region alone may not be sufficient to indicate the location of a region with respect to the entire image without any indication of its size and shape of the region. The centrality measure is defined by ..." (Luo et al., page 3, paragraph 0043, lines 1-5)

Claim 36, in contrast, enhances the control signal for controlling the degree of image enhancement based on determined locations of each belief region.

Claims 37-39 are allowable as depending from Claim 36.

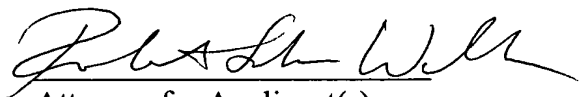
Claim 40 is supported and allowable on the same grounds as Claim

36.

It is believed that these changes now make the claims clear and definite and, if there are any problems with these changes, Applicants' attorney would appreciate a telephone call.

In view of the foregoing, it is believed none of the references, taken singly or in combination, disclose the claimed invention. Accordingly, this application is believed to be in condition for allowance, the notice of which is respectfully requested.

Respectfully submitted,



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Enclosures: Request for One Month Extension of Time
PTO-2038 (original & copy)
Transmittal Fee Sheet
Postcard